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MINISTRY OF SCIENCE AND HIGHER EDUCATION

RUSSIAN FEDERATION

Federal State Autonomous Educational Institution of Higher Education

NORTH-CAUCASUS FEDERAL UNIVERSITY

APPROVED

Assoc. Prof. Kubanov S.I.

PhD in Medical Sciences

Dean

Faculty of Medicine and Biology

COURSE OUTLINE OF THE DISCIPLINE (MODULE)

«Evidence-Based Medicine»

Name of the discipline (module)

- Specialty: 31.05.01 General Medicine
- Mode of training: Full-time
- Year of commencement of studies: 2026
- Delivered in Semester: 12

Developed by:

Acting Head of the Department of Propaedeutics of Internal Diseases,

Cand. Sci. (Med.)

position

G.S. Ivchenko

full name

1. Aim and Objectives of Mastering the Discipline (Module)

- The aim of mastering the academic discipline "Anesthesiology, Resuscitation, Intensive Care" is: the acquisition by students of knowledge in the field of pathophysiology of terminal states and clinical death, the fundamentals of resuscitation measures, and the legal and ethical-deontological aspects of cardiopulmonary resuscitation. Mastering the principles of intensive care and resuscitation, the main methods of providing first aid in emergency conditions; forming an understanding of the principles of organization and capabilities of modern specialized anesthesiology and resuscitation services; modern methods of monitoring and detoxification used in intensive care; acquiring skills in performing a complex of cardiopulmonary resuscitation. The acquisition by students of knowledge in the diagnosis and principles of treatment of critical conditions in patients of surgical, therapeutic, and other profiles.

- Objectives of mastering the discipline:

To examine at the modern level the etiology and pathogenesis of critical conditions, the pathophysiological essence of the processes occurring during dying and restoration of the body.

To develop in students the skills of diagnosing terminal states; to train students in the complex of resuscitation measures in acute respiratory and circulatory disorders, in clinical death; in the application of modern methods of resuscitation and intensive care when providing assistance to patients and victims in critical conditions of various etiologies; to train students in the simplest methods of analgesia when performing painful procedures and surgical interventions, and in the management of pain syndromes; to familiarize students with the necessary volume of theoretical knowledge on the legal and ethical-deontological foundations in the field of intensive care and resuscitation.

2. Place of the Discipline (Module) in the Structure of the Training (educational) Program

The discipline «Evidence-Based Medicine» belongs to the compulsory part of the curriculum.

3. List of Potential Learning Outcomes for the Discipline (Module), Correlated with the Outcomes of Mastering the Educational Program

Code and definition of the competence	Code and definition of the indicator	Planned learning outcomes for the discipline (module) describing the stages of competency and indicator development
UC-2. Able to manage a project at all stages of its life cycle.	IA-1 UC-2. Formulates the project goal, determines the set of interrelated tasks ensuring its achievement, and defines the expected results of solving the tasks. IA-2 UC-2. Develops an action plan for solving the project tasks, choosing the optimal method of solving them based on the current legal norms and available resources and constraints. IA-3 UC-2. Ensures the implementation	Acquisition of specialized medical skills and their application in practical healthcare.

	of the project in accordance with the established goals, timelines, and costs, based on the current legal norms, available resources, and constraints, including through the use of digital tools.	
UC-6. Able to determine and implement the priorities of one's own activities and ways of improving them based on self-assessment and lifelong learning.	IA-1 UC-6. Sets personal and professional goals in accordance with the level of one's resources and priorities of actions for successful development in the chosen sphere of professional activity. IA-2 UC-6. Implements and adjusts the strategy of personal and professional development, taking into account conditions, means, personal capabilities, stages of career growth, the time perspective of activity development, and labor market requirements. IA-3 UC-6. Critically evaluates the effectiveness of using time and other resources when solving set tasks in the chosen sphere of professional activity.	Upbringing of a comprehensively developed personality
PC-9. Able to apply the basic principles of organization and management in the sphere of public health protection, in medical organizations and their structural units.	IA-1 PC-9. Able to apply the principles of monitoring the performance of job duties by the district nurse and other medical personnel at one's disposal. IA-2 PC-9. Assesses the effectiveness of modern medical-organizational and socio-economic technologies in the provision of medical care, and applies the principles of organization and management in the sphere of public health protection within medical	Acquisition of specialized medical skills and their application in practical healthcare.

	organizations and their structural units.	
PC-10. Ready to participate in assessing the quality of medical care using basic medical-statistical indicators.	IA-1 PC-10. Calculates and analyzes the indicators of the quality of medical care. IA-2 PC-10. Develops measures aimed at improving the quality of medical care.	Readiness for oral and written communication. Acquisition of specialized medical skills and their application in practical healthcare.
PC-11. Ready to analyze and publicly present medical information based on evidence-based medicine.	IA-1 PC-11. Independently works with sources of scientific medical information. IA-2 PC-11. Compiles reports (sections of a report), literature reviews, and presentations on a topic or its section (stage of the task). IA-3 PC-11. Publicly presents scientific information based on evidence-based medicine.	Readiness for oral and written communication. Acquisition of specialized medical skills and their application in practical healthcare.

4. Volume of the Academic Discipline (Module) and Control *

Volume of classes: Total: 4 ECTS credits, 144 academic hours.	Full-time type of study, in academic hours
Face-to-face work	48
Lectures / including practical training	12
Practical classes / including practical training	36
Independent work	96
Forms of control	
Credit (Pass/Fail)	

** The discipline (module) provides for the use of e-learning and remote learning technologies (unless otherwise set by the educational standard).*

5. Content of the Discipline (Module), Structured by Topics (Sections) with an Indication of the Hours and Types of Classes

#	Section (topic) of the discipline and brief	Competencies and	Full-time training	Forms of current control of academic
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	content	indicators to be developed	Contact work of students with the teacher / of them practical skills training, hours			Independent work, hours	progress
			Lectures	Practical classes	Laboratory		
12th semester							
1	Evidence-Based Medicine. ???. Clinical Epidemiology. Types of Studies.	IA-1 UC-2 IA-2 UC-2 IA-3 UC-2 IA-1 UC-6 IA-2 UC-6 IA-3 UC-6 IA-1 PC-10 IA-2 PC-10 IA-1 PC-11 IA-2 PC-11 IA-3 PC-11	2	6		16	Interview (discussion)
2	Databases. Search for Evidence-Based Information. ???. Search for Information on Medical Technologies. Formulating a Search Question. 2. Sources of Information on Evidence-Based Medicine. Searching for Evidence to Solve a Clinical Problem. Stages of Searching for an Answer.	IA-1 UC-2 IA-2 UC-2 IA-3 UC-2 IA-1 UC-6 IA-2 UC-6 IA-3 UC-6 IA-1 PC-10 IA-2 PC-10 IA-1 PC-11 IA-2 PC-11 IA-3 PC-11	2	6		16	Interview (discussion)
3	Diagnostic Tests. Screening. 1. Reliability of a Diagnostic Test. The "Gold Standard" and the Informativeness of a Clinical Test. 2. Theory of Screening.	IA-1 UC-2 IA-2 UC-2 IA-3 UC-2 IA-1 UC-6 IA-2 UC-6 IA-3 UC-6 IA-1 PC-10 IA-2 PC-10 IA-1 PC-11 IA-2 PC-11 IA-3 PC-11	2	6		16	Interview (discussion)

4	Observational Studies ??. Characteristics ??. Advantages ??. Principles	IA-1 UC-2 IA-2 UC-2 IA-3 UC-2 IA-1 UC-6 IA-2 UC-6 IA-3 UC-6 IA-1 PC-10 IA-2 PC-10 IA-1 PC-11 IA-2 PC-11 IA-3 PC-11	2	6	16	Interview (discussion)
5	Evaluation of Various Methods of Treatment and Prevention from the Perspective of Evidence-Based Medicine ??. Basic Standards of Clinical Trials. Principles of Good Clinical Practice (GCP) ??. Systematic Review — the Top of the Evidence Hierarchy ??. Analysis of a Clinical Decision ??. Clinical Guidelines	IA-1 UC-2 IA-2 UC-2 IA-3 UC-2 IA-1 UC-6 IA-2 UC-6 IA-3 UC-6 IA-1 PC-10 IA-2 PC-10 IA-1 PC-11 IA-2 PC-11 IA-3 PC-11	2	6	16	Interview (discussion)
6	Sources of Medical Information, Critical Appraisal. Implementation of the Principles of Evidence-Based Medicine into Clinical Practice	IA-1 UC-2 IA-2 UC-2 IA-3 UC-2 IA-1 UC-6 IA-2 UC-6 IA-3 UC-6 IA-1 PC-10 IA-2 PC-10 IA-1 PC-11 IA-2 PC-11 IA-3 PC-11	2	6	16	Interview (discussion)
	TOTAL in Semester		12	36	96	
	TOTAL		12	36	96	

6. Assessment Tools Fund for the Discipline (Module)

The assessment tools fund (ATF) for the discipline (module) «Evidence-Based Medicine» is based on the list of competencies to be mastered, indicating the stages of their formation in the process of mastering the discipline (module). The ATF provides an objective control over the achievement of the planned learning outcomes. The ATF includes:

- A description of indicators and criteria for evaluating competencies at various stages of their formation, a description of evaluation scales;
- Methodological materials determining the procedures for evaluating knowledge, skills, abilities and (or) work experience characterizing the stages of competency formation;
- Standard control tasks and other materials necessary for assessing knowledge, skills, and the level of mastery of the formed competencies in the process of mastering the discipline (module).

The ATF is an appendix to this discipline (module) program.

7. Methodological Guidelines for Students on Mastering the Discipline

When starting work, each student must take into account the following provisions.

The discipline (module) is structured on a thematic principle; each topic represents a logically completed section.

The lecture material is dedicated to the consideration of key, basic provisions of the courses and the clarification of learning tasks assigned for the independent work of students.

Practical classes are conducted with the aim of consolidating the mastered information, acquiring skills for its application in solving practical problems in the relevant subject area.

Laboratory works are aimed at gaining practical experience in the relevant subject area.

The independent work of students is aimed at the independent study of additional material, preparation for practical and laboratory classes, as well as the execution of all types of independent work.

In order to successfully master the discipline, it is important to complete all types of independent work employing the recommended sources of information.

8. Educational, Methodological, and Informational Support for the Discipline

8.1. List of Main and Additional Literature Required for Mastering the Discipline (Module)

8.1.1. List of Main Literature:

1. Begun D. N., Borshchuk E. L., Ekimov A. K., Bayanova N. A. Vvedenie v statisticheskiy analiz meditsinskikh dannykh [Introduction to Statistical Analysis of Medical Data] [Electronic resource]: uchebnoe posobie dlya aspirantov. Orenburg: Orenburgskaya gosudarstvennaya meditsinskaya akademiya, 2014. 118 p. Available at: <https://www.iprbookshop.ru/54283.html> (in Russian).
2. Goryushkin A. P. Matematicheskaya logika i teoriya algoritmov [Mathematical Logic and Theory of Algorithms] [Electronic resource]: uchebnik. Saratov: Vuzovskoe obrazovanie, 2022. 499 p. ISBN 978-5-4487-0808-4. Available at: <https://www.iprbookshop.ru/117296.html> (in Russian).
3. Degtyareva I. N. Teoriya statistiki [Theory of Statistics] [Electronic resource]: uchebnik. Moscow: Ay Pi Ar Media, 2021. 248 p. ISBN 978-5-4497-1212-7. Available at: <https://www.iprbookshop.ru/109498.html> (in Russian).

8.1.2. List of Additional Literature:

1. Aleksandrovskaya Yu. P. Informatsionnye tekhnologii statisticheskogo analiza dannykh [Information Technologies for Statistical Data Analysis] [Electronic resource]: uchebno-metodicheskoe posobie. Kazan': Kazanskiy natsional'nyy issledovatel'skiy tekhnologicheskii universitet, 2019. 152 p. ISBN 978-5-7882-2636-1. Available at: <https://www.iprbookshop.ru/100535.html> (in Russian).
2. Gorelov V. I., Ledashcheva T. N. Analiz statisticheskikh dannykh [Analysis of Statistical Data] [Electronic resource]: praktikum. Moscow: Rossiyskaya mezhdunarodnaya akademiya turizma, Universitetskaya kniga, 2015. 120 p. ISBN 978-5-98699-151-1. Available at: <https://www.iprbookshop.ru/70537.html> (in Russian).
3. Korovin V. N. Metody resheniya optimizatsionnykh zadach v meditsine [Methods for Solving Optimization Problems in Medicine] [Electronic resource]: uchebnoe posobie. Moscow: Ay Pi Ar Media, 2021. 82 p. ISBN 978-5-4497-1204-2. Available at: <https://www.iprbookshop.ru/108368.html> (in Russian).
4. Rybchinskaya I. I. Istoriya bolezni v propedevticheskoy terapii [Case History in Propaedeutic Therapy] [Electronic resource]: uchebnoe posobie. Ed. by K. M. Ivanov. Orenburg: Orenburgskaya gosudarstvennaya meditsinskaya akademiya, 2012. 22 p. Available at: <https://www.iprbookshop.ru/31822.html> (in Russian).
5. Chung K. L., AitSakhliya F. Elementarnyy kurs teorii veroyatnostey. Stokhasticheskie protsessy i finansovaya matematika [Elementary Course of Probability Theory. Stochastic

Processes and Financial Mathematics] [Electronic resource]. Transl. by M. B. Lagutin. 4th ed. Moscow: Laboratoriya znaniy, 2021. 456 p. ISBN 978-5-93208-572-1 (in Russian).

8.2. List of Educational and Methodological Support for the Independent Work of Students in the Discipline (Module)

1. Uchebno-metodicheskoe posobie: Metodicheskie rekomendatsii po organizatsii samostoyatel'noy raboty obuchayushchikhsya po distsipline «Dokazatel'naya meditsina» dlya studentov spetsial'nosti 31.05.01 Lechebnoe delo [Study Guide: Methodological Recommendations for Organizing Independent Work of Students in the Discipline "Evidence-Based Medicine" for Students of Specialty 31.05.01 General Medicine]. Stavropol, 2026.
2. Uchebno-metodicheskoe posobie: Metodicheskie ukazaniya po vypolneniyu prakticheskikh zanyatiy po distsipline «Dokazatel'naya meditsina» dlya studentov spetsial'nosti 31.05.01 Lechebnoe delo [Study Guide: Methodological Instructions for Conducting Practical Classes in the Discipline "Evidence-Based Medicine" for Students of Specialty 31.05.01 General Medicine]. Stavropol, 2026.

8.3. List of Resources of the Information and Telecommunications Network **Internet** Required for Mastering the Discipline (Module)

1. <http://rudocor.net/> — Medical Portal
2. <http://www.e-reading.club/> — Large Online Library
3. <https://dic.academic.ru/> — Dictionaries and Encyclopedias
4. <https://roszdravnadzor.gov.ru/> — Federal Service for Surveillance in Healthcare (Roszdravnadzor)
5. <https://www.rmj.ru/> — Russian Medical Journal

9. List of Information Technologies Employed through the Discipline (Module), Including a List of Software and Information Reference Systems

When delivering lectures, computer equipment and demonstrations of multimedia presentation materials are used. In seminars and practical classes, students deliver presentations prepared by them during the hours of independent work.

Information Reference Systems:

Information-reference and information-legal systems used in the study of the discipline:

1.	http://rudocor.net/ — Medical Portal
2.	https://dic.academic.ru/ — Dictionaries and Encyclopedias

Software:

1.	Alt Workstation 10
2.	Alt Workstation K
3.	Alt Server
4.	Office software package – P7-Office

10. Description of the Material and Technical Resources Required for the Educational Process for the Discipline (Module)

Lecture classes	A classroom equipped with multimedia equipment and technical training facilities.
Practical classes	A classroom, equipped with multimedia equipment and technical training facilities.
Independent work	A room for the independent work of students, equipped with computer hardware with the capability to connect to the Internet network and provide access to the electronic information and

	educational environment of the university.
Practical training	Carried out in the structural subdivisions of the university and (or) in organizations engaged in activities matching the profile of the respective training program, including its structural subdivision.

11. Specific Features of Mastering the Discipline (Module) by Persons with Disabilities

Students with disabilities shall be provided with special textbooks, teaching aids, and didactic materials, special technical training facilities for collective and individual use, the services of an assistant (helper) providing the necessary technical assistance to the students, as well as the services of sign language interpreters and tactile sign language interpreters.

The mastery of the discipline (module) by students with disabilities may be organized jointly with other students, as well as in separate groups.

Mastering the discipline (module) by students with disabilities is to be carried out taking into account the peculiarities of psychophysical development, individual capabilities, and health status.

In order to ensure the accessibility of higher education under the educational program for persons with disabilities, the following is provided during the mastery of the discipline (module):

- 1) for persons with visual impairments:
 - the presence of an assistant offering the student the necessary technical assistance, taking into account individual features (help taking the workplace, moving around, reading and formatting the task, including writing under dictation),
 - written tasks, as well as instructions on the procedure for their execution, are formatted in an enlarged font,
 - special textbooks, teaching aids, and didactic materials (having a large font or audio files),

individual uniform lighting of at least 300 lux,
if necessary, a magnifying device is provided to the student to complete the task;
- 2) for persons with hearing impairments:
 - the presence of an assistant providing the student with the necessary technical assistance, taking into account individual characteristics (helps to take a workplace, move around, read and format the task, including writing with dictation),
 - the availability of sound-amplifying equipment for collective use is ensured; if necessary, sound-amplifying equipment for individual use is provided to the student;
 - provision with proper sound means of reproducing information is ensured;
- 3) for persons with musculoskeletal disorders (including severe motor function impairments of the upper limbs or the absence of upper limbs):
 - written tasks are performed on a computer with specialized software or are dictated to an assistant;
 - at the request of the student, tasks may be performed verbally.

12. Specific Features of Implementing the Discipline with the Use of Distance Learning Technologies and E-Learning

Subject to Part 1 of Article 16 of the Federal Law of December 29, 2012, No. 273-FZ On Education in the Russian Federation, e-learning shall be viewed as the arrangement of educational activities employing information contained in databases and used in the implementation of educational programs, as well as information technologies, technical means, and information and telecommunication networks that ensure the processing and transmission of the specified information via communication lines, and the interaction of students and pedagogical workers.

Remote (distance) learning technologies are understood as educational technologies implemented mainly with the use of information and telecommunication networks during the indirect (at a distance) interaction of students and pedagogical workers.

The implementation of the discipline may be carried out with distance learning technologies and e-learning in full or in part. The components of the Educational And Methodological Complex (EMC) of the discipline (working program of the discipline, assessment and methodological materials, forms of attestation) implemented with the use of distance learning technologies and e-learning contain an indication of their use.

When arranging educational activities with distance learning technologies and e-learning, asynchronous and synchronous methods of interaction between participants in educational relations via the information and telecommunications network Internet may be offered.

When using distance learning technologies and e-learning, the schedule for the discipline shall indicate: methods of interaction among participants in educational relations via the information and telecommunications network Internet (VCC – videoconferencing, ET – electronic testing); links to the electronic information and educational environment of NCFU, to educational platforms and resources of other organizations to which open access is provided via the information and telecommunications network Internet; for synchronous learning – the time of online classes and instructors; for asynchronous learning – the authors of online courses.

When arranging intermediate attestation with distance learning technologies and e-learning, the Methodological Recommendations on the use of technical means ensuring the objective reliability of results when conducting intermediate and state final attestation for higher education educational programs – Bachelor's Degree programs, Specialist's Degree programs, and Master's Degree programs with distance learning technologies are used (Letter of the Ministry of Science and Higher Education of Russia dated December 7, 2020, # MN-19/1573-AN On sending methodological recommendations).

The implementation of the discipline with the use of e-learning and distance learning technologies is carried out using the electronic information and educational environment of NCFU, to which students are provided access via the information and telecommunications network Internet, or using the resources of other organizations, including platforms providing services for videoconferencing, online meetings, and distance learning (MTS-Link), as well as using the capabilities of social networks to carry out communication between students and instructors.

The educational and methodological support for a discipline shall be ensured with e-learning and distance learning technologies includes the working program presented in electronic form, educational and methodological manuals or a course of lectures, methodological guidelines for performing various types of educational activities of students provided for by the discipline, and other educational and methodological materials posted in the information and educational environment of NCFU.

